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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/540,792	06/27/2005	Dominique Brunel	FR020145US	9271
25235 7590 03/19/2009 HOGAN & HARTSON LLP ONE TABOR CENTER, SUITE 1500 1200 SEVENTEENTH ST DENVER, CO 80202				
EXAMINER				
HA, DAC V				
ART UNIT		PAPER NUMBER		
2611				
NOTIFICATION DATE		DELIVERY MODE		
03/19/2009		ELECTRONIC		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

patentcolorado@hhlaw.com

# Office Action Summary

## Application No.

10/540,792

## Applicant(s)

BRUNEL ET AL.

## Examiner

Dac V. Ha

## Art Unit

2611

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 08 December 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SE/US)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

1. This is in response to the amendment filed on 12/08/08.

***Response to Arguments***

2. Applicant's amendment filed on 12/08/08, with respect to the rejection(s) of claim(s) 2, 11 under 35 U.S.C 112, first paragraph, have been fully considered and are not persuasive. However, upon further consideration, a new ground(s) of rejection is also made in view of the followings.

***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claims 2, 11 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. Claims 2 and 11 recite "to produce a spread spectrum oscillator". However, in Figure 3, it appears that a local oscillator output signal is multiplied with a PN code to produce a spread local oscillator signal, but not "a spread local oscillator".

***Claim Rejections - 35 USC § 101***

5. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims **1-9, 12** are rejected under 35 U.S.C. 101 because the claimed invention is non-statutory as being directed to software per se. Paragraphs 0134-144 state "[0143] There are numerous ways of implementing functions of the method according to the invention by means of items of hardware or software, or both, provided that a single item of hardware or software can carry out several functions. It does not exclude that an assembly of items of hardware or software or both carry out a function, thus forming a single function without modifying the method for processing a signal in accordance with the invention. [0144] Said hardware or software items can be implemented in several manners, such as by means of wired electronic circuits or by means of an integrated circuit that is suitably programmed, respectively." Accordingly, claimed subject matter in apparatus claims 1-9 can be implemented solely by software.

Claim(s) **10-11** is/are rejected under 35 U.S.C. 101 as not falling within one of the four statutory categories of invention. While the claims recite a series of steps or acts to be performed, a statutory "process" under 35 U.S.C. 101 must (1) be tied to another statutory category (such as a particular apparatus), or (2) transform underlying subject matter (such as an article or material) to a different state or thing. The instant claims neither transform underlying subject matter nor positively tie to another statutory category that accomplishes the claimed method steps, and therefore do not qualify as a statutory process. In the instant application, at least one of the steps of the method claims 10-11 must be tied to another statutory category to satisfy as a statutory process.

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. **Claims 10-11** are rejected under 35 U.S.C. 103(a) as being unpatentable over Shi et al. (US 6,332,083) in view of Azenkot et al. (US 6,791,995) (hereafter Azenkot).

**Re claim 10**, Shi discloses "spreading and down-converting the received signal to baseband, rejecting the DC offsets on the received signal" in Fig. 2, elements 38-68; col. 7, lines 14-51; col. 11, lines 29-30; wherein the multiplication of signal 62 with digital sequence on line 66 in Fig. 2 teaches the claimed "spreading"; further Shi also implies that the signal 68 after down-conversion from IF is baseband signal (col. 2, lines 59-60).

Shi differs from the claimed invention in that Shi does not disclose "dispredding the spread signal".

In the same filed of endeavor, Azenkot discloses a shared digital back end that performs dispredding in col. 15, lines 13-19; col. 25, lines 21-28.

Both Shi and Azenkot direct to multi-mode receiver for accommodating different communication system, including CDMA. Even though Shi does not explicitly disclose despredding the signal, a person of ordinary skill in the art would have easily realized that there would have been a depredding step in the receiving chain. Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the

invention to substitute the shared digital backend, taught by Azenkot, in place of the shared element 78 of Shi and a predictable result would have been expected.

**Re claim 11**, Shi further implies the teaching of "producing a spread spectrum oscillator and a spreading sequence in order to expand the bandwidth of the received signal" in Fig. 2, elements 38-68; col. 6, line 44 to col. 7, line 22; wherein the mixing of the received signal with local oscillator signal at element 46 and digital sequence at element 64 teaches "expand the bandwidth" as a result.

8. **Claims 1-2, 4, 5, 8, 9, 12** are rejected under 35 U.S.C. 103(a) as being unpatentable over Shi in view of Azenkot and Pau (US 6,735,426).

**Re claim 1**, see method claim 10 for corresponding claimed subject matter.

The combination of Shi and Azenkot differs from the claimed invention in that it does not disclose "a single RF chip" and "a single baseband chip".

Pau, in same field of endeavor, discloses transceiver for where most of its components can be implemented on the same integrated circuit (IC), except for some components of the baseband circuit in col. 2, lines 3-5; col. 6, lines 34-52. Thus, the transceiver of Pau can be implemented with two chips.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to incorporate the teaching of integrated all transceiver components onto, i.e. two IC, taught by Pau, into the aforementioned combination to reduce size for the circuitry.

**Re claim 2**, Shi further implies the teaching of "produce a spread spectrum oscillator and a spreading sequence, in order to expand the bandwidth of the received

signal" in Fig. 2, elements 38-68; col. 6, line 44 to col. 7, line 22; wherein the mixing of the received signal with local oscillator signal at element 46 and digital sequence at element 64 teaches "expand the bandwidth" as a result.

**Re claim 4**, Shi further discloses "the channel filtering section is common for all the modes" in Fig. 2, elements 38-68; col. 7, lines 14-27; where all received signals are subjected to the same "channel filtering".

**Re claim 5**, the combination of Shi, Azenkot and Pau further teach the claimed subject matter "a block of low-noise-amplifier and associated mixers of each mode" in Pau, Fig. 5, elements 2402, 2404; 2602 and 2606; 2802 and 2806; col. 6, lines 4-24; and "unique first rejection means for rejecting DC offsets on a spread received signal for any mode" in Shi, Fig. 2, elements 38-68; col. 7, lines 14-26; wherein as indicated above, all received signals are subjected to "spreading" and DC-offset elimination.

**Re claim 8**, the combination of Shi, Azenkot and Pau discloses all claimed subject matter in claim 8, as stated above, except for "wherein the despreading means comprise: a single multiplier, and a single correlator with integration and dump means". However, method and circuit for depreding is rather well-known in the art utilizing a correlator or match filter. Basic construction and operation of correlator is also well-known. Therefore, the examiner would like to take and official notice for claimed subject matter "wherein the despreading means comprise: a single multiplier, and a single correlator with integration and dump means". (Further, for reference purpose only and not relied on for the rejection, please correlator 108; paragraph 0055 of Cranford, JR. et al. - US 2004/0114670 as an example).

**Re claim 9**, , the combination of Shi, Azenkot and Pau discloses all claimed subject matter in claim 9, as stated above, except for "synchronization means for synchronizing a spread signal with a corresponding disspreading sequence". That is, the aforementioned combination does not teach synchronization in the receiver since it is not the objective of its invention. However, as would be apparent to one skilled in the art, synchronization is an important step that must be performed at the receiver for correctly detecting received signal. Particularly, for a CDMA system, synchronization is achieved by matching the spread signal with a code sequence locally generated at the receiver. Such technique is well-known in the art and the examiner would like to take an official notice for claimed subject matter "synchronization means for synchronizing a spread signal with a corresponding disspreading sequence". However, for reference only and not relied on for the rejection of this claim, please see O - US 6,061,338, col. 1, lines 26-36 as an example).

**Re claim 12**, Shi further discloses "A mobile phone comprising a receiver as claimed in claim 1" in col. 6, lines 23-24.

9. **Claim 3** is rejected under 35 U.S.C. 103(a) as being unpatentable over Shi, Azenkot and Pau as applied to claim 1 above, and further in view of Tirola et al. (US 6,529,545) (hereafter Tirola).

**Re claim 3**, the combination of Shi, Azenkot and Pau discloses all claimed subject matter in claim 3, as stated above, except for "wherein the spreading section further comprise unique rejection means for all the modes for suppressing the adjacent carrier frequencies of the associated received signals".



Tiirola discloses elimination of adjacent carrier frequencies in col. 15, lines 14-34.

Because the nature of communication system like CDMA system, there would have been interference caused by adjacent carrier frequencies in the received signal. Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to incorporate the step for eliminating adjacent carrier frequencies, taught by Tiirola, into the aforementioned combination for more accurately detecting the received signal and predictable result would have been expected.

### ***Conclusion***

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Sato (US 7,058,380)

Axness et al.(US 7,447,519)

Ali et al. (US 6,292,474)

Tiirola et al. (US 6,529,545)

Cranford, FR. et al. (US 2004/0114670)

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dac V. Ha whose telephone number is 571-272-3040. The examiner can normally be reached on 4/4.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Payne can be reached on 571-272-3024. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Dac V. Ha/  
Primary Examiner, Art Unit 2611